

REMARKS

Applicants respectfully request reconsideration of this application as amended.

Claims 1-28 are currently pending. Claims 1, 11, 21, and 26 have been amended. Claims 4 and 14 have been cancelled without prejudice. No claims have been added.

Therefore, claims 1-3, 5-13, and 15-28 are presented for examination.

35 U.S.C. §103 Rejection

Pegatoquet, et al.

The Examiner has rejected claims 1-8, 10-18 and 20 under 35 U.S.C. §102 (e) as being anticipated by U.S. Patent No. 6,598,221 of Pegatoquet, et al ("Pegatoquet").

As amended herein, claim 1 reads as follows:

1. A method comprising:
receiving an application program;
compiling the application program into a first compiled version for execution by a first processor, compiling the application including instrumenting the first compiled version with monitoring instructions to direct the capture of profile data;
executing the first compiled version using the first processor;
capturing profile data during the execution of the first compiled version as directed by the monitoring instructions of the first compiled version; and
compiling the application program into a second compiled version for execution by a second processor, the compiling of the second compiled version including optimization based at least in part on the captured profile data.

Claim 1 thus includes compiling a program application into a first compiled version, with compiling the application including instrumenting the first compiled

version with monitoring instructions to direct the capture of profile data. As described in the application, profiled guided optimization includes instrumentation of code, which indicates that instructions have been included to monitor the operation of the application execution.

Pegatoquet discusses a different kind of program optimization which does not address profile guided optimization and does not include the elements of claim 1.

The Office Action indicates that Pegatoquet discloses a dynamic information capturing tool at basic block or function level and thus discloses monitoring instructions to direct profile capture. However, a close analysis of the cited portions of the reference indicates that no teaching or suggestion of instrumented monitoring instructions in a compiled application. Pegatoquet provides for a tool known as VESTIM. As indicated in Pegatoquet, the tool was developed to provide two kinds of estimation, these being a performance evaluation of the assembly code generated by a C compiler and an estimation of an optimized assembly code. (Pegatoquet, col. 4, line 64 through col. 5, line 15) Nothing in this description indicates the use of an instrumented program. Further, the description of VESTIM as a tool outside of the compiler implies the compiler is not a part of the tool.

The Office Action further notes that Pegatoquet refers to dynamic and static estimation. However, what Pegatoquet indicates is that the VESTIM tool is divided into two independent parts, a front-end and a back-end, with dynamic information being first collected using a statistical approach. (Pegatoquet, col. 6, lines 31-54) The collection of dynamic information by the front-end is further explained, indicating that “[a] method is adapted based on the execution of the C code with a test sequence. The C code is then

annotated with this dynamic information. The test sequence coverage must correspond to a good approximation of the worst case execution time.” (Pegatoquet, col. 6, lines 53-57) What is described therefore is a system in which C code is executed using a particular test sequence, with the C code then being annotated with the dynamic information. However, this is an annotation of the results of testing. There is no indication that the compiled code is instrumented with monitoring instructions prior to execution.

Further, Figure 2 of Pegatoquet is an illustration of the method used in the described system. As indicated, the C source code is received by the host compiler, and then is subject to execution using certain test sequences. The execution results in dynamic information, which is then used to annotate the C code prior to presentation to the target DSP compiler. There is again no teaching or suggestion regarding instrumentation of a program with monitoring instructions.

The Office Action also cites to Table 1, column 10. This column is labeled “Nb exec”, which is indicated to be the number of execution of the function, which apparently relates to a number of times that each function is executed in the test sequence. Again, there is nothing in this portion of the reference that would indicate that the compiled C code has been instrumented with monitoring instructions to direct the capture of profile data. The explanation of Table 1 indicates that “[i]n order to analyze more accurately these critical functions, VESTIM provides performance at a basic block level as well (available for both generated code and estimation of an optimized code.” (Pegatoquet, col. 10, lines 8-11) The analysis at block or function level is not relevant to the element of instrumentation of code by the compiler.

In summary, Pegatoquet describes a different type of operation that does not involve profile guided optimization, and does not teach or suggest the elements of claim 1.

It is submitted that the above argument also applies to the other independent claims, including rejected claim 11. The remaining rejected claims are dependent claims that are allowable as being dependent on the allowable base claims.

35 U.S.C. §103 Rejection

Pegatoquet, et al. in view of D’Arcy, et al.

The Examiner has rejected claims 9, 19, and 21-28 under 35 U.S.C. §103 (a) as being unpatentable over Pegatoquet in view of U.S. Patent No.6,467,082 of D’Arcy, et al. (“D’Arcy”).

D’Arcy discusses a method for simulating a first processor on a second processor. which involves translating assembly language instructions for the first processor into C, compiling the C code using the second processor, and executing the C code on the second processor to simulate the first processor.

In addition to other differences, there is nothing in D’Arcy that teaches or suggests the element that is missing from Pegatoquet, which involves compiling a program application into a first compiled version, with compiling the application including instrumenting the first compiled version with monitoring instructions to direct the capture of profile data. D’Arcy again does not involve profile guided optimization, and does not teach or suggest the elements of the claims.

It is thus submitted that neither Pegatoquet or D’Arcy, alone or in combination, teach or suggest the elements of independent claims 21 and 26. The remaining rejected

claims are dependent claims that are allowable as being dependent on the allowable base claims.

Conclusion

Applicants respectfully submit that the rejections have been overcome by the amendment and remark, and that the claims as amended are now in condition for allowance. Accordingly, Applicants respectfully request the rejections be withdrawn and the claims as amended be allowed.

Invitation for a Telephone Interview

The Examiner is requested to call the undersigned at (303) 740-1980 if there remains any issue with allowance of the case.

Request for One-Month Extension of Time

Applicants respectfully petition for a one-month extension of time to respond to the outstanding Office Action pursuant to 37 C.F.R. § 1.136(a). A check is enclosed for the necessary fee under 37 C.F.R. § 1.17(a) for such an extension.

Charge our Deposit Account

Please charge any shortage to our Deposit Account No. 02-2666.

Respectfully submitted,

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Date:

1/10/05



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